Fig. 1

Fig. 2 *Successive Interface Cancellation Overview For First Iteration*

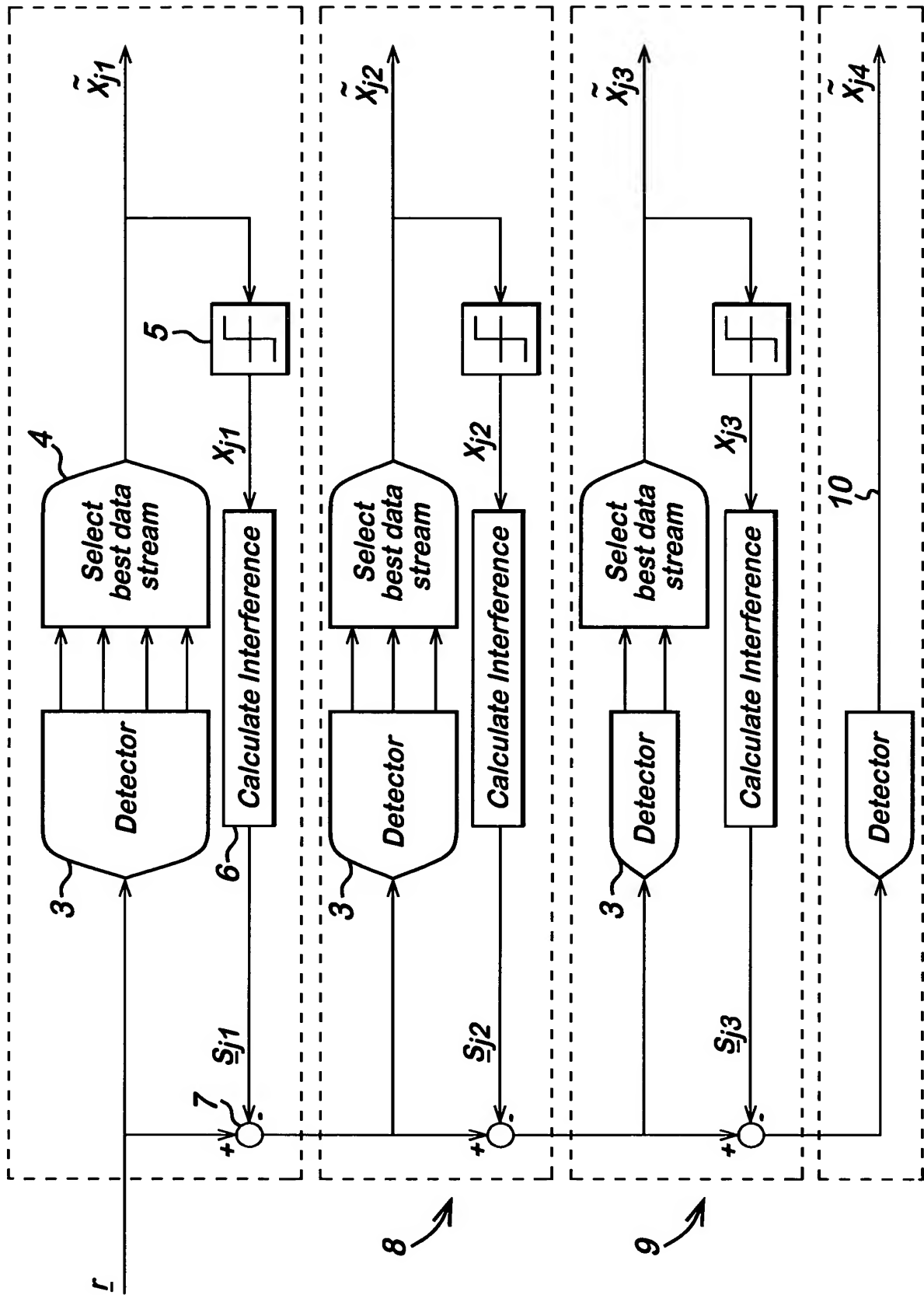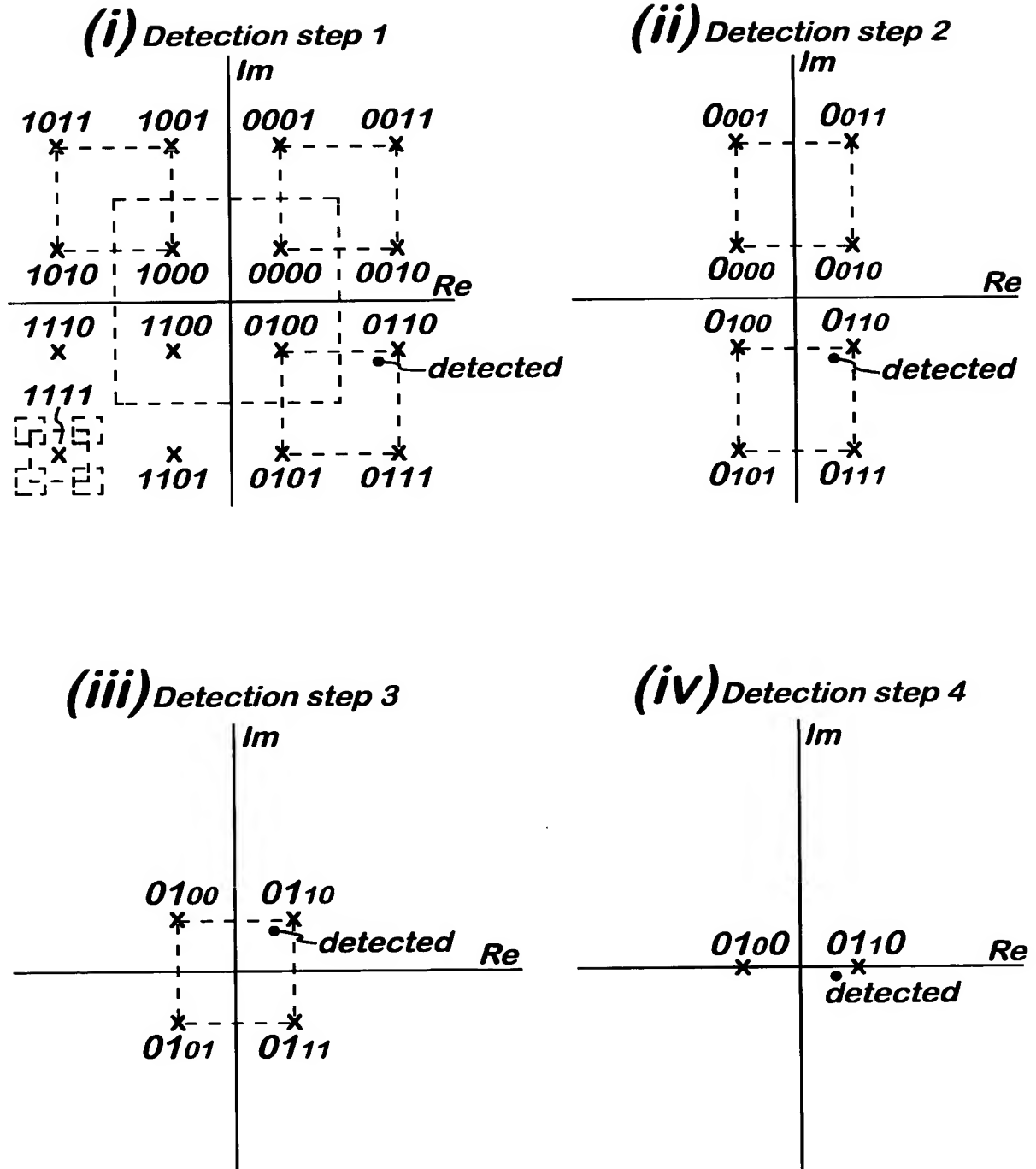# Fig. 3

(i) Detection step 1

Im

1011   1001 | 0001   0011
×‑‑‑‑‑× | ×‑‑‑‑‑×

1010 ¦ 1000 | 0000 ¦ 0010   Re
×   ‑‑× | ×   ×

1110 ¦ 1100 | 0100 ¦ 0110
×   × | ×‑‑‑‑×—detected

1111
×   × | ×‑‑‑× | ×
1101 | 0101   0111

(ii) Detection step 2

Im

0001 | 0011
×‑‑‑‑×

0000 | 0010   Re
×‑‑‑‑×

0100 | 0110
×‑‑‑×—detected

×‑‑‑×
0101 | 0111

(iii) Detection step 3

Im

0100 | 0110
×‑‑‑× —detected   Re

×‑‑‑×
0101 | 0111

(iv) Detection step 4

Im

0100 | 0110   Re
×   ×
detected

Fig. 4 BER comparison for 16-QAM, >1250 blocks, 1024 info-bits/block

Bit-Error Rate (info-bits)

Eb/No [dB]   (Eb=TX-energy/info-bits)

☆ APP+turbo(6it) flat   ✳ APP+turbo(6it) dispersive+EQ(ideal MMSE)   ☐ MF+SIC, 6it, dispersive   ⊕ MF+SIC, 6it, flat

Fig. 5 FER comparison for 16-QAM, >1250 blocks, 1024 info-bits/block

Frame-Error Rate

Eb/No [dB]   (Eb=TX-energy/info-bits)

☆ APP+turbo(6it) flat   ✳ APP+turbo(6it) dispersive+EQ(ideal MMSE)   ⊞ MF+SIC, 6it, dispersive   ⊕ MF+SIC, 6it, flat
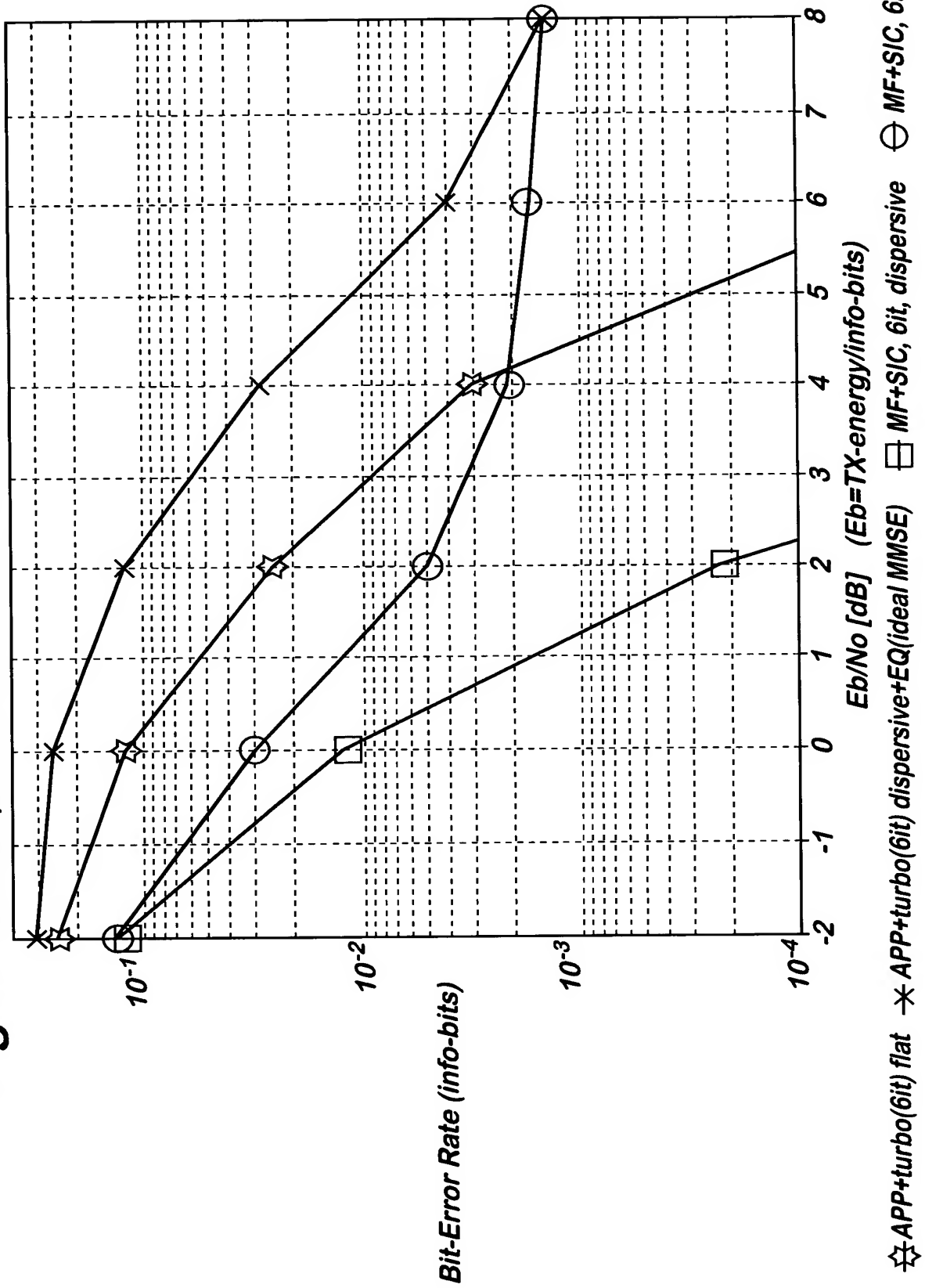
6/8

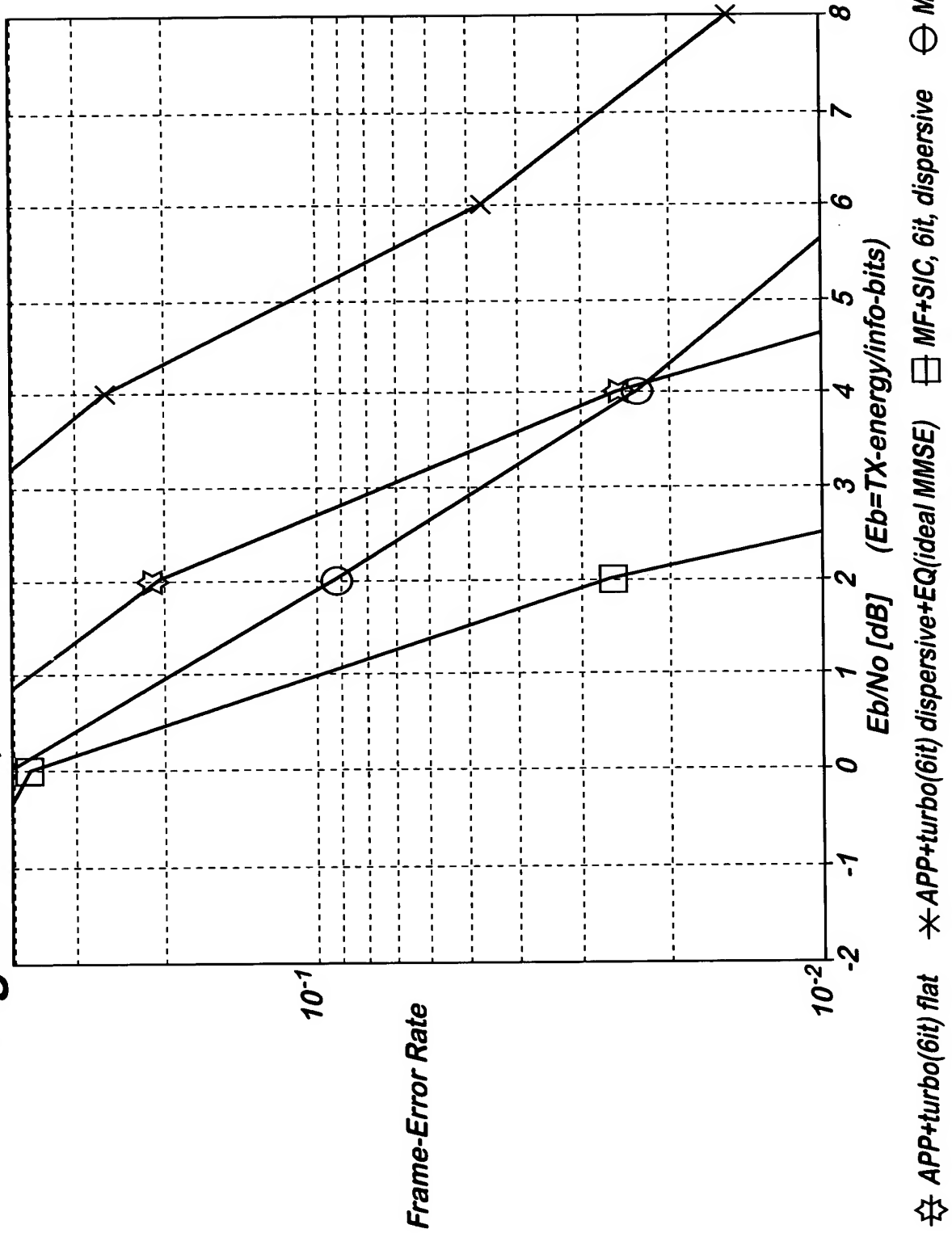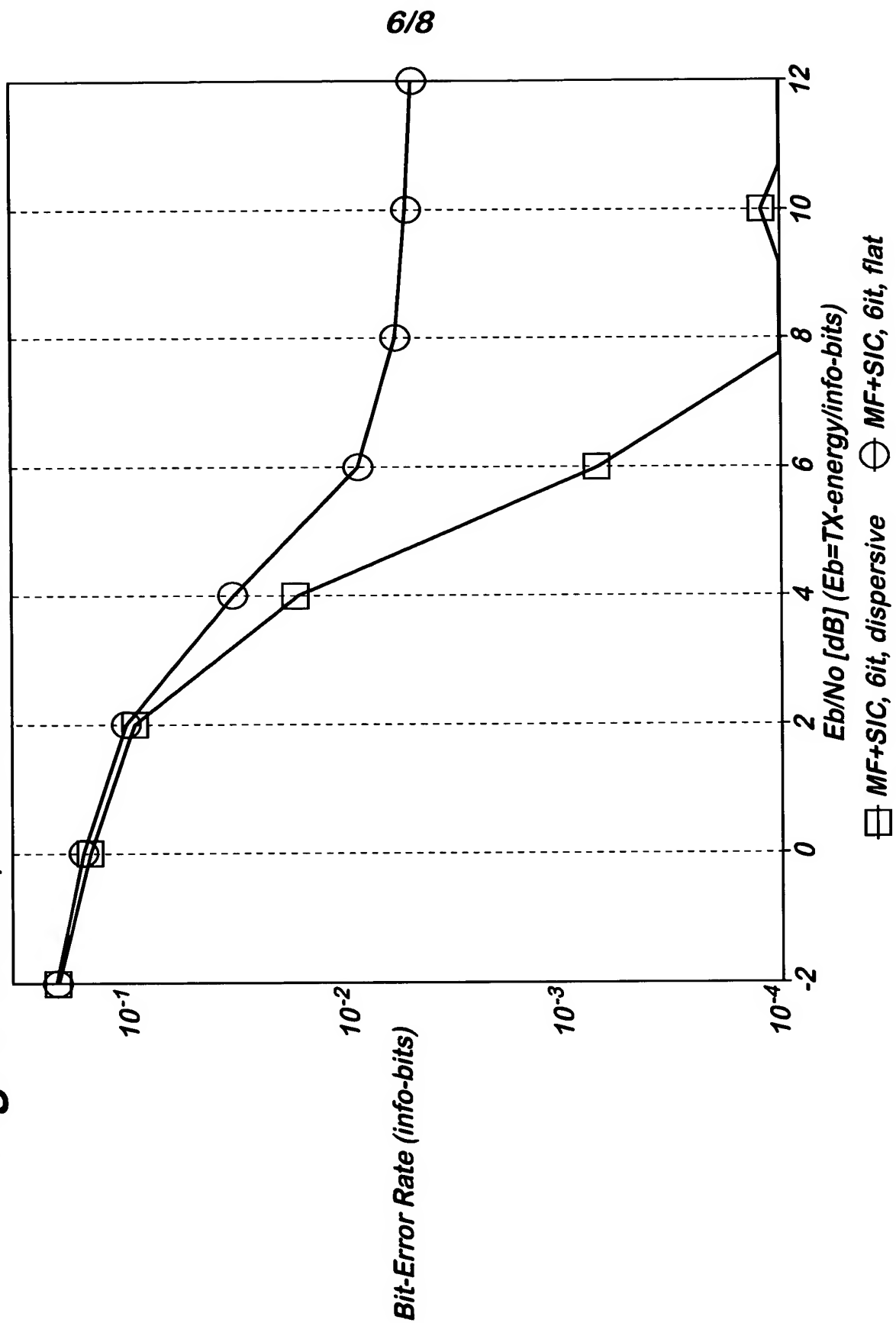*Fig. 6* BER comparison for 64-QAM, 2000 blocks, 1024 info-bits/block

Fig. 7 FER comparison for 64-QAM, 2000 blocks, 1024 info-bits/block

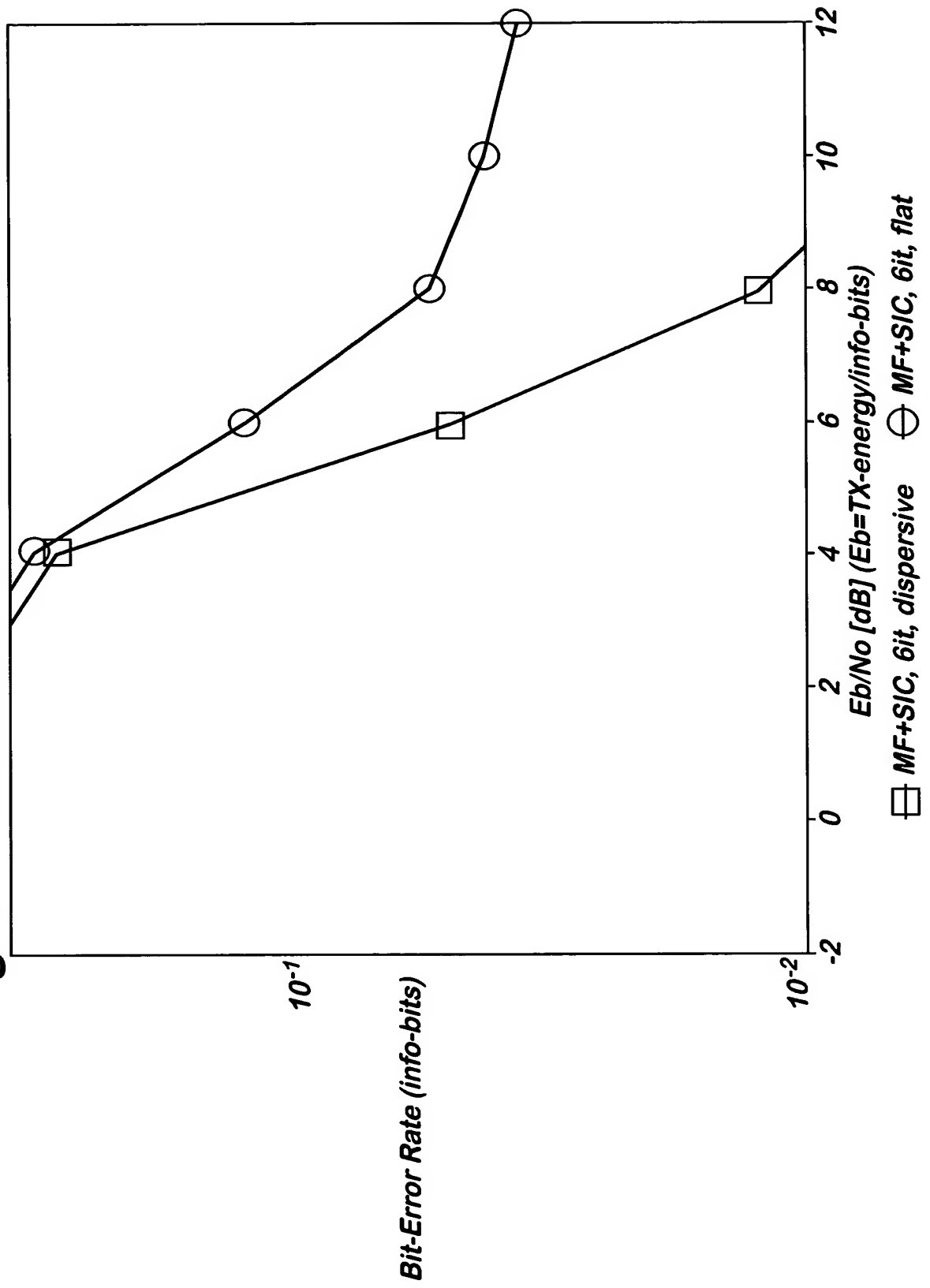Bit-Error Rate (info-bits)

Eb/No [dB] (Eb=TX-energy/info-bits)

□ MF+SIC, 6it, dispersive   ⊕ MF+SIC, 6it, flat

Fig. 8

System throughput [Mb/s]

Average Eb/No per RX-antenna [dB]

☆ MF+SIC, QPSK   ⊞ MF+SIC, 16QAM   ✳ MF+SIC, 64QAM   ✱ MF+SIC, QPSK